

.. What is claimed is:

1. A switching power supply comprising a rectifying circuit for rectifying an AC voltage, a smoothing capacitor for smoothing an output of the rectifying circuit, a series switch circuit formed by a first switch and a second switch connected between two electrodes of the smoothing capacitor, a transformer for inducing a voltage to be an output at a secondary winding as the first switch is turned on/off and the second switch is turned on/off in a complementary manner with the first switch, and a series circuit formed by a primary winding of the transformer connected between a connection point of the first switch and the second switch and one terminal of the smoothing capacitor, and a resonance capacitor,

wherein a first magnetic element connected between a positive electrode obtained by rectifying the AC voltage and an intermediate tap of the primary winding is provided, the resonance capacitor is connected to the connection point of the first switch and the second switch, and the primary winding is connected to the positive electrode of the smoothing capacitor.

2. The switching power supply as claimed in claim 1, wherein a second magnetic element connecting a positive electrode obtained from the rectifying circuit and the smoothing capacitor is provided.

3. A switching power supply comprising a rectifying

circuit for rectifying an AC voltage, a smoothing capacitor for smoothing an output of the rectifying circuit, a series switch circuit formed by a first switch and a second switch connected between two electrodes of the smoothing capacitor, a transformer for inducing a voltage to be an output at a secondary winding as the first switch is turned on/off and the second switch is turned on/off in a complementary manner with the first switch, and a series circuit formed by a primary winding of the transformer connected between a connection point of the first switch and the second switch and one terminal of the smoothing capacitor, and a resonance capacitor,

wherein a first magnetic element connected between a positive electrode obtained by rectifying the AC voltage and a connection point of the primary winding and the resonance capacitor is provided, the resonance capacitor is connected to the connection point of the first switch and the second switch, and the primary winding is connected to the positive electrode of the smoothing capacitor.

4. A switching power supply comprising a rectifying circuit for rectifying an AC voltage, a smoothing capacitor for smoothing an output of the rectifying circuit, a series switch circuit formed by a first switch and a second switch connected between two electrodes of the smoothing capacitor, a transformer for inducing a voltage to be an output at a secondary winding as the first switch is turned on/off and the

second switch is turned on/off in a complementary manner with the first switch, and a series circuit formed by a primary winding of the transformer connected between a connection point of the first switch and the second switch and one terminal of the smoothing capacitor, and a resonance capacitor,

wherein a first magnetic element connected between a positive electrode obtained by rectifying the AC voltage and a high-frequency AC voltage source in the switching power supply is provided, the resonance capacitor is connected to the connection point of the first switch and the second switch, and the primary winding is connected to the positive electrode of the smoothing capacitor.

5. A switching power supply comprising a rectifying circuit for rectifying an AC voltage, a smoothing capacitor for smoothing an output of the rectifying circuit, a series switch circuit formed by a first switch and a second switch connected between two electrodes of the smoothing capacitor, a transformer for inducing a voltage to be an output at a secondary winding as the first switch is turned on/off and the second switch is turned on/off in a complementary manner with the first switch, and a series circuit formed by a primary winding of the transformer connected between a connection point of the first switch and the second switch and one terminal of the smoothing capacitor, and a resonance capacitor,

wherein a first magnetic element connected between a

.. high-frequency AC voltage source in the switching power supply and a negative electrode obtained by rectifying the AC voltage is provided, the resonance capacitor is connected to the connection point of the first switch and the second switch, and the primary winding is connected to the negative electrode of the smoothing capacitor.